

=====

Sequence Listing was accepted.

See attached Validation Report.

If you need help call the Patent Electronic Business Center at (866)  
217-9197 (toll free).

Reviewer: Durreshwar Anjum

Timestamp: [year=2008; month=1; day=8; hr=14; min=58; sec=13; ms=535; ]

=====

Application No: 10578043

Version No: 1.0

**Input Set:****Output Set:****Started:** 2007-12-17 18:11:00.681**Finished:** 2007-12-17 18:11:03.771**Elapsed:** 0 hr(s) 0 min(s) 3 sec(s) 90 ms**Total Warnings:** 19**Total Errors:** 1**No. of SeqIDs Defined:** 19**Actual SeqID Count:** 19

Error code	Error Description
E 287	Invalid WIPO ST.2 date format; Use (YYYY-MM-DD) in <151>
W 213	Artificial or Unknown found in <213> in SEQ ID (1)
W 213	Artificial or Unknown found in <213> in SEQ ID (2)
W 213	Artificial or Unknown found in <213> in SEQ ID (3)
W 213	Artificial or Unknown found in <213> in SEQ ID (4)
W 213	Artificial or Unknown found in <213> in SEQ ID (5)
W 213	Artificial or Unknown found in <213> in SEQ ID (6)
W 213	Artificial or Unknown found in <213> in SEQ ID (7)
W 213	Artificial or Unknown found in <213> in SEQ ID (8)
W 213	Artificial or Unknown found in <213> in SEQ ID (9)
W 213	Artificial or Unknown found in <213> in SEQ ID (10)
W 213	Artificial or Unknown found in <213> in SEQ ID (11)
W 213	Artificial or Unknown found in <213> in SEQ ID (12)
W 213	Artificial or Unknown found in <213> in SEQ ID (13)
W 213	Artificial or Unknown found in <213> in SEQ ID (14)
W 213	Artificial or Unknown found in <213> in SEQ ID (15)
W 213	Artificial or Unknown found in <213> in SEQ ID (16)
W 213	Artificial or Unknown found in <213> in SEQ ID (17)
W 213	Artificial or Unknown found in <213> in SEQ ID (18)
W 213	Artificial or Unknown found in <213> in SEQ ID (19)



# SEQUENCE LISTING

<110> PROBIOGEN AG

Volker Sandig  
Ingo Jordan

<120> Immortalized Avian Cell Lines for Virus Production

<130> 04156.0024U1

<140> 10578043

<141> 2007-12-17

<150> 10/578,043

<151> 2004 11-03

<150> 03025158.1

<151> 2003-11-03

<160> 19

<170> PatentIn Ver. 2.1

<210> 1

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer VS182

<400> 1

actcgagctg acgtgtagtg tatt 24

<210> 2

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer VS183

<400> 2

cacacgcaat cacaggtt 18

<210> 3

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer VS184

<400> 3

actcgagtca tggaggcttg ggagt 25

<210> 4

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer VS185

<400> 4

acacatttca gtacctca 18

<210> 5

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer  
VintSA-F

<400> 5

aaggtaccct ccctagtcct agtga 25

<210> 6

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer Vint  
SA-R

<400> 6

caatgtacag agtgggctcc tgtgg 25

<210> 7

<211> 6471

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Plasmid  
pEFAd5E1A

<400> 7

gtaccgaatt caagcttcgt gaggtccgg tgcccgtcag tgggcagagc gcacatcgcc 60  
cacagtcctcc gagaagttgg ggggaggggt cggcaattga accggtgcct agagaaggtg 120  
gcgcggggta aactgggaaa gtgatgtcgt gtactggctc cgcctttttc ccgagggttg 180  
gggagaaccg tatataagtg cagtagtcgc cgtgaacggt ctttttcgca accgggtttgc 240  
cgccagaaca caggtaagtg ccgtgtgtgg ttcccgcggt cctggcctct ttacgggtta 300  
tggcccttgc gtgccttgaa ttacttccac ctggctccag tacgtgattc ttgatcccca 360

gctggagcca	ggggcgggcc	ttgcgcttta	ggagcccctt	cgctcgtgc	ttgagttgag	420
gcctggcctg	ggcgctgggg	ccgcgcgctg	cgaaatctggt	ggcaccttcg	cgctgtctc	480
gctgctttcg	ataagtctct	agccatttaa	aatttttgat	gacctgctgc	gacgcttttt	540
ttctggcaag	atagtcttgt	aaatgcgggc	caggatctgc	acactggtat	ttcggttttt	600
gggcccgcg	ccggcgacgg	ggcccgtgcg	tcccagcgca	catgttcggc	gaggcggggc	660
ctgcgagcgc	ggccaccgag	aatcggaagg	ggtagtctc	aagctggccg	gcctgctctg	720
gtgectggcc	tcgcgcgcgc	gtgtatcgcc	ccgcctggg	cggcaagget	ggcccggctg	780
gcaccagttg	cgtgagcggg	aagatggccg	cttcccggcc	ctgctccagg	gggctcaaaa	840
tggaggacgc	ggcgctcggg	agagcggggc	ggtgagtcac	ccacacaaag	gaaaagggcc	900
tttcgctcct	cagccgtcgc	ttcatgtgac	tccacggagt	accgggcgc	gtccaggcac	960
ctcgattagt	tctggagcct	ttggagtacg	tcgtctttag	gttgggggga	ggggttttat	1020
gcgatggagt	ttccccacac	tgagtgggtg	gagactgaag	ttaggccagc	ttggcacttg	1080
atgtaattct	ccttggaatt	tggccttttt	gagtttgat	cttggttcat	tctcaagcct	1140
cagacagtgg	ttcaaagttt	ttttcttcca	tttcagggtg	cgtgaacact	cgagctgacg	1200
tgtagtgtat	ttatacccg	tgagttctct	aagaggccac	tcttgagtgc	cagcgagtag	1260
agttttctcc	tccgagccgc	tccgacaccg	ggactgaaaa	tgagacatat	tatctgccac	1320
ggaggtgtta	ttaccgaaga	aatggccgcc	agtcttttgg	accagctgat	cgaagaggtg	1380
ctggctgata	atcttcacc	tcctagccat	tttgaaccac	ctacccttca	cgaactgtat	1440
gatttagacg	tgacggcccc	cgaagatccc	aacgaggagg	cggtttcgca	gatttttccc	1500
gactctgtaa	tgttggcggt	gcaggaagg	attgacttac	tacttttcc	gccggcgccc	1560
ggttctccgg	agccgcctca	cctttcccgg	cagcccgagc	agccggagca	gagagccttg	1620
ggtccggttt	ctatgccaaa	ccttgtaccg	gaggtgatcg	atcttacctg	ccacgaggct	1680
ggctttccac	ccagtgcgca	cgaggatgaa	gagggtgagg	agtttgtgtt	agattatgtg	1740
gagcaccctg	ggcacggttg	caggtcttgt	cattatcacc	ggaggaatac	gggggaccca	1800
gatattatgt	gttcgctttg	ctatatgagg	acctgtggca	tgtttgtcta	cagtaagtga	1860
aaattatggg	cagtgggtga	tagagtgggtg	ggtttgggtg	ggtaattttt	tttttaattt	1920
ttacagtttt	gtgggtttaaa	gaattttgtg	ttgtgatttt	tttaaaaggt	cctgtgtctg	1980
aacctgagcc	tgagcccag	ccagaaccgg	agcctgcaag	acctaccgc	cgtcctaaaa	2040
tggcgccctg	tatcctgaga	cgcccgacat	cacctgtgtc	tagagaatgc	aatagtagta	2100
cggatagctg	tgactccggt	ccttctaaca	cacctcctga	gatacacccg	gtgggtccgc	2160
tgtgccccat	taaaccagtt	gccgtgagag	ttggtggg	tcgccaggct	gtggaatgta	2220
tcgaggactt	gcttaacgag	cctgggcaac	ctttggactt	gagctgtaaa	cgccccaggc	2280
cataaggtgt	aaacctgtga	ttgcgtgtgg	aattctagaa	gctcgtgat	cagcctcgac	2340
tgtgccttct	agttgccagc	catctgttgt	ttgcccctcc	cccggtcctt	ccttgaccct	2400
ggaaggtgcc	actcccactg	tcctttccta	ataaaatgag	gaaattgcat	cgcattgtct	2460
gagtaggtgt	cattctattc	tgggggggtg	ggtggggcag	gacagcaagg	gggaggattg	2520
ggaagacaat	agcaggcatg	ctggggatgg	ccggggtcct	atggcttctg	aggcggaag	2580
aaccagctgg	ggctctagg	ggtatcccca	cgcgccctgt	agcggcgcat	taagcgcggc	2640
gggtgtggtg	gttacgcgca	gcgtgaccgc	tacacttgcc	agcgccctag	cgcccgctcc	2700
tttcgctttc	ttcccttcc	ttctcgccac	gttcgcgggc	tttcccctgc	aagctctaaa	2760
tcggggcatc	cctttagggt	tccgatttag	tgtttacgg	cacctcgacc	ccaaaaaact	2820
tgattagggt	gatggttcac	gtagtggg	atcgccctga	tagacggttt	ttcgcccttt	2880
gacgttgag	tccacgttct	ttaatagtgg	actcttgctt	caaactggaa	caacactcaa	2940
ccctatctcg	gtctattctt	ttgatattata	agggattttg	gggatttcgg	cctattgggt	3000
aaaaaatgag	ctgattttaac	aaaaatttaa	cgcgaattaa	ttctgtggaa	tgtgtgtcag	3060
ttagggtgtg	gaaagtcctc	aggtcccca	ggcaggcaga	agtatgcaa	gcatgcatct	3120
caattagtca	gcaaccaggt	gtggaaagtc	cccaggctcc	ccagcaggca	gaagtatgca	3180
aagcatgcat	ctcaattagt	cagcaaccat	agtcgcgc	ctaactccgc	ccatcccgc	3240
cctaactccg	cccagttccg	cccattctcc	gcccctaggc	tgactaattt	tttttattta	3300
tgcagaggcc	gaggcgccct	ctgcctctga	gctattccag	aagtagtgag	gaggcttttt	3360
tggaggccta	ggcttttgca	aaaagctccc	gggaggtcca	caatgattga	acaagatgga	3420
ttgcacgcag	gttctccggc	cgttggtg	gagaggctat	tcggctatga	ctgggcacaa	3480
cagacaatcg	gctgctctga	tgcgcgcgtg	ttccggctgt	cagcgcagg	gcgcccgtt	3540
ctttttgtca	agaccgacct	gtccggtgcc	ctgaatgaac	tccaggacga	ggcagcgcg	3600
ctatcgtggc	tggccacgac	gggcgttcc	tgcgcagctg	tgctcgacgt	tgtcactgaa	3660
gcgggaagg	actggctgct	attgggcgaa	gtgccggggc	aggatctcct	gtcatctcac	3720
cttgctcctg	ccgagaaagt	atccatcatg	gctgatgcaa	tcggcggt	gcatacgtt	3780

```

gatccggcta cctgcccatt cgaccaccaa gcgaaacatc gcatcgagcg agcacgtact 3840
cggatggaag cgggtcttgt cgatcaggat gatctggacg aagagcatca ggggctcgcg 3900
ccagccgaac tgttcgccag gctcaaggcg cgtatgcccg acggcgagga tctcgtcgtg 3960
actcatggcg atgcctgctt gccgaatatc atggtggaaa atggccgctt ttctggattc 4020
atcgactgtg gccggctggg tgtggcggac cgctatcagg acatagcgtt ggctaccggt 4080
gatattgctg aagagcttgg cggcgaatgg gctgaccgct tcctcgtgct ttacggtatc 4140
gccgctcccg attcgcagcg catcgcttcc tatcgcttcc ttgacgagtt cttctgagcg 4200
ggactctggg gttcgaaatg accgaccaag cgacgccccaa cctgccatca cgagatttcg 4260
attccaccgc cgccttctat gaaagggttg gcttcggaat cgttttcgcg gacgccggct 4320
ggatgatcct ccagcgcggg gatctcatgc tggagtctct cgcccacccc aacttgttta 4380
ttgcagctta taatggttac aaataaagca atagcatcac aaatttcaca aataaagcat 4440
ttttttcact gcattctagt tgtggtttgt ccaaactcat caatgtatct tatcatgtct 4500
gtataccgga tctttccgct tcctcgtcct ctgactcgct gcgctcggtc gttcggctgc 4560
ggcgagcggg atcagctcac tcaaaggcgg taatacgggt atccacagaa tcaggggata 4620
acgcaggaaa gaacatgtga gcaaaaggcc agcaaaaggc caggaaccgt aaaaaggccg 4680
cgttgctggc gtttttccat aggtccgccc cccctgacga gcatcacaaa aatcgacgct 4740
caagtcagag gtggcgaaac ccgacaggac tataaagata ccaggcggtt ccccctggaa 4800
gctccctcgt gcgctctcct gttccgaccc tgcgctttac cggatacctg tcgcctttc 4860
tcccttcggg aagcgtggcg ctttctcaat gctcacgctg taggtatctc agttcgggtg 4920
aggctcgttcg ctccaagctg ggctgtgtgc acgaaccccc cgttcagccc gaccgctgcg 4980
ccttatccgg taactatcgt cttgagttca acccggttaag acacgactta tcgccactgg 5040
cagcagccac tggtaacagg attagcagag cgaggtatgt aggcggtgct acagagttct 5100
tgaagtgggt gcttaactac ggctacacta gaaggacagt atttggtatc tgcgctctgc 5160
tgaagccagt taccttcgga aaaagagttg gtacgtcttg atccggcaaa caaaccaccg 5220
ctggtagcgg tggttttttt gtttgcaagc agcagattac gcgcagaaaa aaaggatctc 5280
aagaagatcc tttgatcttt tctacggggg ctgacgctca gtggaacgaa aactcacgtt 5340
aagggatttt ggtcatgaga ttatcaaaaa ggatcttcac ctagatcctt ttaaattaaa 5400
aatgaagttt taaatcaatc taaagtatat atgagtaaac ttggtctgac agttaccaat 5460
gcttaatcag tgaggcacct atctcagcga tctgtctatt tcgttcaccc atagttgcct 5520
gactccccgt cgtgtagata actacgatac gggagggctt accatctggc ccagtgctg 5580
caatgatacc gcgagacca cgtccaccgg ctccagattt atcagcaata aaccagccag 5640
ccggaagggc cgagcgaga agtggtcctg caactttatc cgctccatc cagtctatta 5700
attgttgccg ggaagctaga gtaagtagtt cgccagttaa tagtttgccg aacgttggtg 5760
ccattgctac aggcacgtg gtgtcacgct cgtcgtttgg tatggcttca ttcagctccg 5820
gttcccaacg atcaaggcga gttacatgat ccccatgtt gtgcaaaaaa gcggttagct 5880
ccttcggtcc tccgatcgtt gtcagaagta agttggccgc agtggtatca ctcatggtta 5940
tggcagcact gcataattct cttactgtca tgccatccgt aagatgcttt tctgtgactg 6000
gtgagtactc aaccaagtca ttctgagaat agtgtatgcg gcgaccgagt tgctcttgcc 6060
cggcgtcaat acgggataat accgcgccac atagcagaac tttaaaagtg ctcatcattg 6120
gaaaacgttc ttccggggcg aaactctcaa ggatcttacc gctgttgaga tccagttcga 6180
tgtaacccac tcgtgcaccc aactgatctt cagcatcttt tactttcacc agcgtttctg 6240
ggtgagcaaa aacaggaagg caaaatgccg caaaaaaggg aataaggcg acacggaaat 6300
gttgaatact catactcttc ctttttcaat attattgaag catttatcag ggttattgtc 6360
tcatgagcgg atacatattt gaatgtattt agaaaaataa acaaataggg gttccgcgca 6420
catttccccg aaaagtgcc cctgacgtca gatcgacgga tcgggagatc g 6471

```

<210> 8

<211> 6629

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Plasmid  
pEFAd5E1BSA

<400> 8

tcttccgctt	cctcgctcac	tgactcgctg	cgctcggtcg	ttcggtgctg	gcgagcggtg	60
tcagctcact	caaaggcggt	aatacggtta	tccacagaat	caggggataa	cgcaggaag	120
aacatgtgag	caaaaggcca	gcaaaagccc	aggaaccgta	aaaaggccgc	gttgctggcg	180
tttttccata	ggctccgccc	cctgacgag	catcacaaaa	atcgacgctc	aagtacagag	240
tggcgaaacc	cgacaggact	ataaagatac	caggcgtttc	cccctggaag	ctccctcggt	300
cgctctcctg	ttccgaccct	gccgcttacc	ggatacctgt	ccgcctttct	cccttcggga	360
agcgtggcgc	tttctcatag	ctcacgctgt	aggtatctca	gttcggtgta	ggtcgttcgc	420
tccaagctgg	gctgtgtgca	cgaaccccc	gttcagcccg	accgctgcgc	cttatccggt	480
aactatcgct	ttgagtccaa	cccggtaaga	cacgacttat	cgccactggc	agcagccact	540
ggtaacagga	ttagcagagc	gaggtatgta	ggcggtgcta	cagagtctct	gaagtgggtg	600
cctaactacg	gctacactag	aaggacagta	tttggtatct	gcgctctgct	gaagccagtt	660
accttcggaa	aaagagttgg	tagctcttga	tccggcaaac	aaaccaccgc	tggtagcggg	720
gggttttttt	tttgcaagca	gcagattacg	cgcagaaaaa	aaggatctca	agaagatcct	780
ttgatctttt	ctacggggtc	tgacgctcag	tggaaacgaa	actcacgtta	agggattttg	840
gtcatgagat	tatcaaaaag	gatcttcacc	tagatccttt	taaattaaaa	atgaagtttt	900
aaatcaatct	aaagtatata	tgagttaact	tggctcgaca	gttaccaatg	cttaatcagt	960
gaggcaccta	tctcagcgat	ctgtctattt	cgttcatcca	tagttgcctg	actccccgtc	1020
gtgtagataa	ctacgatacg	ggagggttta	ccatctggcc	ccagtgcctg	aatgataccg	1080
cgagaccac	gctcaccggc	tccagattta	tcagcaataa	accagccagc	cgggaaggcc	1140
gagcgcagaa	gtggtcctgc	aactttatcc	gcctccatcc	agtctattaa	ttgttgccgg	1200
gaagctagag	taagtagttc	gccagttaat	agtttgcgca	acgttggtgc	cattgctaca	1260
ggcatcgtag	tgtcacgctc	gtcgtttggt	atggcttcat	tcagctccgg	ttccaacga	1320
tcaaggcgag	ttacatgata	ccccatggtg	tgcaaaaaag	cggttagctc	cttcggtcct	1380
ccgatcgtag	tcagaagtaa	gttgcccgca	gtgttatcac	tcagtgttat	ggcagcactg	1440
cataattctc	ttactgtcat	gccatccgta	agatgctttt	ctgtgactgg	tgagtactca	1500
accaagtcat	tctgagaata	gtgtatgcgg	cgaccgagtt	gctcttgccc	ggcgtcaata	1560
cgggataata	ccgcgccaca	tagcagaact	ttaaaagtgc	tcattcattg	aaaacgttct	1620
tccggggcgaa	aactctcaag	gatcttaccg	ctgttgagat	ccagttcgat	gtaaccact	1680
cgtgcacca	actgatcttc	agcatctttt	actttcacca	gcgtttctgg	gtgagcaaaa	1740
acaggaaggc	aaaatgccgc	aaaaaaggga	ataaggcgca	cacggaaatg	ttgaatactc	1800
atactcttcc	tttttcaata	ttattgaagc	atttatcagg	gttattgtct	catgagcgga	1860
tacatatatt	aatgtattta	gaaaaataaa	caaatagggg	ttccgcgcac	atttccccga	1920
aaagtgccac	ctgtatgcgg	tgtgaaatac	cgcacagatg	cgtaaggaga	aaataccgca	1980
tcaggaaatt	gtaagcggtta	ataattcaga	agaactcgtc	aagaaggcga	tagaaggcga	2040
tgcgctgcga	atcgggagcg	gcgataccgt	aaagcacgag	gaagcgggtc	gcccattcgc	2100
cgccaagctc	ttcagcaata	tcacgggtag	ccaacgctat	gtcctgatag	cggtcgcgca	2160
caccagccg	gccacagtcg	atgaatccag	aaaagcggcc	attttccacc	atgatattcg	2220
gcaagcaggc	atcgccatgg	gtcacgacga	gatcctcgcc	gtcgggcgat	ctcgccttga	2280
gcctggcgaa	cagttcggct	ggcgcgagcc	cctgatgctc	ttcgtccaga	tcattcctgat	2340
cgacaagacc	ggcttccatc	cgagtacgtg	ctcgctcgat	gcgatgtttc	gcttggtggt	2400
cgaatgggca	ggtagccgga	tcaagcgtat	gcagccgcgc	cattgcatca	gccatgatgg	2460
atactttctc	ggcaggagca	aggtgagatg	acaggagatc	ctgccccggc	acttcgcccc	2520
atagcagcca	gtcccttccc	gcttcagtga	caacgtcgag	cacagctgcg	caaggaacgc	2580
ccgtcgtggc	cagccacgat	agccgcgctg	cctcgtcttg	cagttcattc	agggcaccgg	2640
acaggtcggg	cttgacaaaa	agaaccgggc	gccctgcgc	tgacagccgg	aacacggcgg	2700
catcagagca	gccgattgtc	tgttgtgccc	agtcatagcc	gaatagcctc	tccaccaag	2760
cggccggaga	acctgcgtgc	aatccatctt	gttcaatcat	gcgaaacgat	cctcatcctg	2820
tctcttgatc	agagcttgat	cccctgcgcc	atcagatcct	tggcggcgag	aaagccatcc	2880
agtttacttt	gcagggttcc	ccaaccttac	cagagggcgc	cccagctggc	aattccggtt	2940
cgcttgctgt	ccataaaacc	gccagctcta	gctatcgcca	tgtaaagccc	ctgcaagcta	3000
cctgctttct	ctttgcgctt	gcgttttccc	ttgtccagat	agcccagtag	ctgacattca	3060
tccgggggtc	gcaccgtttc	tgccgactgg	ctttctacgt	gaaaaggatc	taggtgaaga	3120
tcctttttga	taatctcatg	cctgacattt	atattcccca	gaacatcagg	ttaatggcgt	3180
ttttgatgtc	attttcgcgg	tggctgagat	cagccacttc	ttccccgata	acggagaccg	3240
gcacactggc	catatcggtg	gtcatcatgc	gccagctttc	atccccgata	tgcaccaccg	3300
ggtaaaagtt	acgggagact	ttatctgaca	gcagacgtgc	actggccagg	gggatcacca	3360
tccgtcgccc	cggcgtgtca	ataatatcac	tctgtacatc	cacaaacaga	cgataacggc	3420



tctctctttt	ataggtgtaa	accttaaact	gccgtacgta	taggctgcgc	aactgttggg	3480
aagggcgatc	ggtgcgggcc	tcttcgctat	tacgccagct	ggcgaaagg	ggatgtgctg	3540
caaggcgatt	aagttgggta	acgccagggt	tttcccagtc	acgacgttgt	aaaacgacgg	3600
ccagtgaatt	gtaatacgac	tactataggt	gcgaattgaa	tttagcggcc	gcgaattcta	3660
cgggtaggg	gagggcgctt	tcccaaggca	gtctggagca	tgcgctttag	cagccccgct	3720
ggcacttggc	gtacacaag	tggcctctgg	cctcgcacac	attccacatc	caccggtagg	3780
cgccaaccgg	ctecgttctt	tgggtggccc	ttcgcgccac	cttctactcc	tcccctagtc	3840
aggaagtcc	cccccgcccc	gcagctcgcg	tcgtgcagga	cgtgacaaat	ggaagtagca	3900
cgtctcacta	gtctcgtgca	gatggacagc	accgctgagc	aatggaagcg	ggtaggcctt	3960
tggggcagcg	gccaatagca	gctttgctcc	ttcgctttct	gggctcagag	gctgggaagg	4020
ggtgggtccg	ggggcgggct	cagggcgggg	ctcagggggc	gggcgggcgc	ccgaaggtcc	4080
tccggaggcc	cggcattctc	gcacgcttca	aaagcgcacg	tctgcgcgcg	tgttctcctc	4140
ttcctcatct	cggggccttt	ctcgagcatg	gaggcttggg	agtgtttgga	agatttttct	4200
gctgtgcgta	acttgctgga	acagagctct	aacagtacct	cttggttttg	gaggtttctg	4260
tggggctcat	cccaggcaaa	gttagtctgc	agaattaagg	aggattacaa	gtgggaattt	4320
gaagagcttt	tgaatcctg	tgggtgagctg	tttgattctt	tgaatctggg	tcaccaggcg	4380
cttttccaag	agaaggatcat	caagactttg	gatttttcca	caccggggcg	cgctgcggct	4440
gctgttgctt	ttttgagttt	tataaaggat	aaatggagcg	aagaaaccca	tctgagcggg	4500
gggtacctgc	tggattttct	ggccatgcat	ctgtggagag	cggttgtag	acacaagaat	4560
cgctgctac	tgttgctctc	cgtccgcccc	gcgataatac	cgacggagga	gcagcagcag	4620
cagcaggagg	aagccaggcg	gcggcggcag	gagcagagcc	catggaaccc	gagagccggc	4680
ctggaccctc	gggaatgaat	gttgtacagg	tggctgaact	gtatccagaa	ctgagacgca	4740
ttttgacaat	tacagaggat	gggcaggggc	taaagggggg	aaagagggag	cgggggggctt	4800
gtgaggctac	agaggaggct	aggaatctag	cttttagctt	aatgaccaga	caccgtcctg	4860
agtgtattac	ttttcaacag	atcaaggata	attgcgctaa	tgagcttgat	ctgctggcgc	4920
agaagtattc	catagagcag	ctgaccactt	actggctgca	gccaggggat	gattttgagg	4980
aggctattag	ggtatatgca	aaggtggcac	ttaggccaga	ttgcaagtac	aagatcagca	5040
aacttgtaaa	tatcaggaat	tgttgctaca	tttctgggaa	cggggccgag	gtggagatag	5100
atacggagga	taggggtggc	tttagatgta	gcataataaa	tatgtggccg	gggggtgctt	5160
gcatggacgg	ggtggttatt	atgaatgtaa	ggtttactgg	ccccaatttt	agcggtagcg	5220
ttttcctggc	caataccaac	cttatectac	acggtgtaag	cttctatggg	tttaacaata	5280
cctgtgtgga	agcctggacc	gatgtaaggg	ttcggggctg	tgccttttac	tgctgctgga	5340
agggggtggt	gtgtcgcccc	aaaagcaggg	cttcaattaa	gaaatgcctc	tttgaaaggt	5400
gtaccttggg	tatcctgtct	gagggtaact	ccagggtgcg	ccacaatgtg	gcctccgact	5460
gtggttgctt	catgctagt	aaaagcgtgg	ctgtgattaa	gcataacatg	gtatgtggca	5520
actgcgagga	cagggcctct	cagatgctga	cctgctcgga	cggcaactgt	cacctgctga	5580
agaccattca	cgtagccagc	cactctcgca	aggcctggcc	agtgtttgag	cataacatac	5640
tgaccgcgtg	ttccttgcat	ttgggtaaca	ggaggggggt	gttcctacct	taccaatgca	5700
at ttgagtc	cactaagata	ttgcttgagc	ccgagagcat	gtccaagggt	aacctgaacg	5760
gggtgtttga	catgaccatg	aagatctgga	aggtgctgag	gtacgatgag	acccgcacca	5820
ggtgcagacc	ctgcgagtgt	ggcggtaaac	atattaggaa	ccagcctgtg	atgctggatg	5880
tgaccgagga	gctgaggccc	gatcacttgg	tgctggcctg	cacccgcgct	gagtttggtt	5940
ctagcgatga	agatacagat	tgagggtactg	aaatggctag	cagtgtaccc	tccctagtcc	6000
cagtgatgag	aaagagattg	agtccagctc	agggagatct	catccacttc	tgtgttctct	6060
ccacaggagc	ccactctgta	caagtaaagc	ggccgcgact	ctagatcata	atcagccata	6120
ccacatttgt	agaggtttta	cttgctttta	aaaacctccc	acacctcccc	ctgaacctga	6180
aacataaaa	gaatgcaatt	gttgtgtgta	acttgtttat	tgcagcttat	aatggttaca	6240
aataaagcaa	tagcatcaca	aatttcacaa	ataaagcatt	tttttactg	cattctagtt	6300
gtgggtttgtc	caaactcatc	aatgtatctt	aagattaagg	gcgaatt		